National Energy
Technology Laboratory

EA Team Ranking of Enterprise System Proposals

Projects for FY2003 Initiation

August 28, 2002

Provided to the Executive Board by the Enterprise Architecture Team:

<u>Voting Members</u>

- Mark Cerullo – Technical Architect

- Eddie Christy – Business Information Officer (BIO) Project

- Dave Dowdell – Application Architect

- Mark Estel - Information Architect

- Chris Ludlow – BIO Project

- Thomas Martin – BIO Institutional

- Dan McCollum – BIO External Relations

- Curt Nakaishi – BIO Product

- Rick Pratt – BIO Facilities

- Bob Romanosky – BIO Product

- Michael Tiberio – BIO Financial & Human Resources

- Maria Vargas – BIO Product

- Tom Wilson – Information Technology Division Director

<u>Support</u>

- Joseph Brooks – Enterprise Architect

- Leonard Turton – Enterprise Systems Manager

EA Team Ranking of Enterprise System Proposals

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Introduction

This report documents the selection phase of NETL's Enterprise Architecture (EA) Investment Management Process. The process facilitates the solicitation, evaluation and resolution of NETL information needs. The EA Investment Management Process is an integrated approach to managing enterprise architecture investments that provides for the continuous identification, selection, control, life-cycle management, and evaluation of investments. This structured process provides a systematic method for NETL to minimize risks while maximizing the return of information investments.

The EA Investment Management Process is based upon the GAO guide, "Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making." The GAO guide leads to conformance with requirements contained in several pieces of legislation, including the Clinger-Cohen Act, GPRA, the CFO Act, and the Federal Acquisition Streamlining Act (FASA), as well as requirements found in a number of key OMB circulars, bulletins, and policy documents.

The semi-annual evaluation cycle process began May 29, 2002, with a call for proposals. Through the evaluation process, the EA Team has generated a list of projects for initiation in FY2003 that address information needs raised by the organization. This report also provides a summary of the status of projects selected for initiation in FY2002.

Recommendations

Based on the process described below, the EA Team recommends NETL initiate the following five projects in FY2003.

Title	Project Description
NETL Information Product Management and Retrieval	Electronic document management systems to manage NETL's knowledge products, including technical reports from contracts, peer reviewed papers, authored articles and conference proceedings.
Document Management System for NETL	An EDMS to support NETL. This project will have phased implementation. The proposed phase is for on-site R&D, ES&H and Site Operations support. An active pilot project in the Director's Office serves as a precursor to the proposed project.
Analysis, Selection and Pilot of Collaboration Tools for NETL	Survey of NETL collaboration requirements and analysis of web based collaboration tools. Phased implementation of the tools will begin in OSPS. This project is the combination of two EA proposals.

ProMIS Congressional District Lookup	Modify ProMIS to interface with a third party congressional database. Will result in greater accuracy and additional functionality.
Maintenance and Property Management System	A integrated system to replace the aging Total Maintenance System (TMS), Maintenance Planning System (MPS) and property and asset management systems.

The two projects described below were not selected for implementation.

Title	Project Description
Automation of the Boiler Room Log at Morgantown	Electronic log book and data acquisition system for the Morgantown boiler room.
Intranet Survey Tool to Support AAD Balanced Scorecard	A Intranet based survey tool to support the annual collection of balanced score card information AAD is required to submit to headquarters

A complete list of evaluated proposals along with a description, the final evaluated score, and rough order of magnitude estimated cost is provided as **Appendix I** to this report.

Process Description

The EA Investment Management Process consists of three phases: selection, control and evaluation. This report focuses on the selection phase of the process. The selection phase is a systematic analysis and evaluation of enterprise system proposals, resulting in a list of projects that provide the greatest value to the organization. The EA Team limited the scope of the evaluation to requests for new systems and requests for modifications to existing systems.

In carrying out the process, the EA Team used the following tools:
- FY2002 Semi-Annual Call for Enterprise Systems Projects (**Appendix II**)
- Proposal format template (NETL F 203.1-1) (**Appendix III**)
- Operating procedure (**Appendix IV**)
- Evaluation criteria and weights (**Appendix V**)
- Structured evaluation process

The EA Team judged the proposals against the following criteria:
- Mission Impact (20 points)
- Organizational Impact (20 points)
- Other Benefit (20 points)
- Overall Benefit to Difficulty (20 points)
- Overall Benefit to Cost (20 points)

The opportunity to respond to the request for Enterprise System Proposals was posted on the NETL Intranet. The call for proposals was also discussed at an Executive Board meeting. Eight proposals were received by the June 13, 2002, due date. No proposals were removed from consideration during the pre-evaluation review.

In support of evaluation criterion 5, Overall Benefit to Cost, ITD's Architecture Control and Implement Board (ACIB) developed a rough order-of-magnitude cost estimate (ROM) for each proposal. The ROM development considered each of the stages in the application

development process. As the selected projects move through the "requirements development stage", higher accuracy cost estimates will be developed.

Proposals and ROM estimates were distributed to each voting member of the EA team. EA Team members individually scored each proposal using predefined evaluation criterion. Scores were tabulated, and an average score was calculated for each proposal. At a July 24, 2002, face-to-face meeting, the evaluators reviewed the scores and thoroughly discussed the merits of each proposal. Evaluators were provided the opportunity to revise their scores based on the discussion. A second review iteration occurred; this time focusing on whether or not the project should be recommended for initiation in FY2003. During the second iteration consensus was reached concerning the appropriate recommendation for each proposal. It was during this second iteration a determination was made to combine proposal FY03-04 and FY03-05 into a single project.

The resulting list of evaluated projects (**Appendix I)** is provided to the team's sponsor, the Deputy Director of Operation and to the Executive Board. The list sorts the proposals into two categories, proposals selected for FY2003 implementation, and proposals not selected for implementation.

Continued EA Team Effort

The EA Investment Management Process is an on-going activity. The EA Team performs periodic status reviews of the active projects to ensure they continue to meet the needs of the organization. A status summary of projects selected for initiation FY2002 is provided in **Appendix VI**. In addition, the Team has initiated a process that ensures existing systems are analyzed to determine if they meet NETL's needs.

As we add new projects to the list of projects initiated in FY2002, resource management and project scheduling issues are being addressed by ITD, the implementing organization. ITD will develop a project schedule to include all ongoing EA projects. The schedule will be presented to the EA Team for discussion and published on the NETL Intranet. As work progresses, the EA Team will communicate the on-going status of each project to the organization via the NETL Intranet. Questions or recommendations about the projects can be directed to any member of the EA Team or may be remitted via e-mail to EAProject.

The EA Team expects the organizational elements requesting and receiving a new or modified system to support the development effort by identifying knowledgeable resources (also known as Business Domain Experts) who can assist ITD personnel in defining the requirement in detail. ITD's scheduled completion of projects is dependent upon organizational support and involvement. Business Domain Expert support is required throughout the development process, from providing feedback during the product development cycle to assisting in testing the product to approval of the final product.

In accordance with our operating schedule, the next EA Investment Management Process cycle will begin with a call for proposals in December, 2002, and will result in a recommendation for additional FY2003 initiated projects.

Proposals selected for FY2003 initiation			
Number	Title	Project Description	ROM Cost Estimate
FY03-07	NETL Information Product Management and Retrieval	Electronic document management systems to manage NETL's knowledge products, including technical reports from contracts, peer reviewed papers, authored articles and conference proceedings.	$205,840 *
FY03-01	Document Management System for NETL	An EDMS to support NETL. This project will have phased implementation. The proposed phase is for on-site R&D, ES&H and Site Operations support. An active pilot project in the Director's Office serves as a precursor to the proposed project.	$567,400 *
FY03-04 & FY03-05 combined	Analysis, selection and pilot of Collaboration Tools for NETL	Survey of NETL collaboration requirements and analysis of web based collaboration tools. Phased implementation of the tools will begin in OSPS.	$113,600 & $181,200
FY03-03	ProMIS Congressional District Lookup	Modify ProMIS to interface with a third party congressional database. Will result in greater accuracy and additional functionality.	$76,240
FY03-08	Maintenance and Property Management System	A integrated system to replace the aging Total Maintenance System (TMS), Maintenance Planning System (MPS) and property and asset management systems.	$398,840 **
Proposals not selected for implementation			
Number	Title	Project Description	ROM Cost Estimate
FY03-06	Automation of the Boiler Room Log at Morgantown	Electronic log book and data acquisition system for the Morgantown boiler room.	$267,600
FY03-02	Intranet Survey Tool to Support AAD Balanced Scorecard	A Intranet based survey tool to support the annual collection of balanced score card information AAD is required to submit to headquarters	$114,400

* A significant portion of the ROM cost for proposals 07 and 01 are operational infrastructure and maintenance costs. The related infrastructure has significant potential value beyond the proposed projects.

** A significant portion of the ROM cost for proposal 08 are management and on-going software maintenance costs.

From: Tom Wilson
May 29, 2002

FY2003 Semi-Annual Call for Enterprise Systems Projects

Do you have an information need that isn't being met? Do you have an idea to improve one of the NETL's software systems? If so, we would like to hear from you.

The Enterprise Architecture Team requests and evaluates Enterprise Architecture (EA) proposals twice a year. The Team is made up of representatives from across the organization and members of the Information Technology Division (ITD).

Successful proposals provide direction on how resources will be applied to meet the needs of the organization. The EA Investment Management Process has been used over the past two years to successfully select 34 projects. Projects selected during this round will be initiated in fiscal year 2003.

Information needed to develop and submit a proposal is located on the Institutional Page of the Intranet under the heading "Enterprise Architecture Team." Available information includes Evaluation Criteria for proposals, a blank Proposal submission form NETL Form 203.1-1"Enterprise System Proposal" (pdf), and the proposal evaluation schedule (pdf). Additional documents that may be useful in preparing proposals include Business, Institutional, and Operations Plans, which are also available via the Intranet.

Business Information Officers (BIOs) and other EA Team members are available to provide assistance in proposal preparation. A list of names, areas of responsibility, and phone numbers is available with the other documents on the Intranet.

Completed Proposal form(s) should be returned via email to EAPROJECTS no later than Thursday, June 13, 2002.

If you have questions or require additional information, please call me at MGN x4171, PGH x4941 or email me at Twilson.

U.S. DEPARTMENT OF ENERGY   **Appendix III**
ENTERPRISE SYSTEM PROPOSAL
FOR INPUT TO
ENTERPRISE ARCHITECTURE INVESTMENT MANAGEMENT PROCESS

Definition: *An Enterprise System is a collection of Information Technology elements (e.g., hardware, software, services) brought together with the intent to facilitate an organization's business process or processes (administrative or project).*

Please submit proposals via E-mail to **EAPROJECTS**. Proposals should not exceed two double-sided pages (four pages total).

Use *<Tab>* Key to Move Between Fields

1. **General Information**

    1.1   Person Requesting:

    1.2   Contact Information *(Organization, Phone, E-Mail, and Mail Stop)*:

    1.3   Proposal Title:

    1.4   Description of the Problem or Requirement:

    1.5   Is this an improvement to an existing process/system or a new one? If it is an improvement, please name and describe the process/system being improved.

U.S. DEPARTMENT OF ENERGY
ENTERPRISE SYSTEM PROPOSAL
FOR INPUT TO
ENTERPRISE ARCHITECTURE INVESTMENT MANAGEMENT PROCESS

2. **Mission Impact**

   2.1 How does this proposal support NETL's Institutional Plan *(http://intranet/institut/instplan.pdf)*?:

   2.2 Is the proposal required for fundamental site operations (e.g., security, safety, etc.)? If yes, explain:

   2.3 How does this proposal better meet the needs of NETL stakeholders?:

3. **Organizational Impact**

   3.1 How many people benefit from resolution of this problem or satisfaction of this requirement?:

   3.2 Which Offices and Divisions are positively impacted by the problem resolution or have this requirement?:

U.S. DEPARTMENT OF ENERGY
ENTERPRISE SYSTEM PROPOSAL
FOR INPUT TO
ENTERPRISE ARCHITECTURE INVESTMENT MANAGEMENT PROCESS

4. **Other Benefits**

    4.1   What are other tangible and intangible benefits of this proposal (e.g., reduced cost; increased productivity; decreased cycle time; improved service quality; faster, more efficient decision-making; greater data accuracy; improved data security; reduced stakeholder burden; increased organizational knowledge; better use of time, materials, resources?

    4.2   Describe any negative implications of not implementing this proposal (other than not receiving benefits already described)?:

U.S. DEPARTMENT OF ENERGY
ENTERPRISE SYSTEM PROPOSAL
FOR INPUT TO
ENTERPRISE ARCHITECTURE INVESTMENT MANAGEMENT PROCESS

5. **Requirement Difficulties/Challenges**

    5.1   What is the required implementation date and impact of not meeting this date?:

    5.2   What is the primary challenge, difficulty, or uncertainty associated with successfully implementing this proposal?:

    5.3   Is there any organization change, process redesign, or job function changes required that add complexity in implementing this proposal?:

Operating Procedure

**The Selection Phase Of The
EA Investment Management Process**

There are three phases in the EA Investment Management. They are (1) select, (2) control, and (3) evaluate. The guidelines for the Selection Phase, as agreed to by the EA Team, follow.

1.   There will be a semi-annual call and proposal review by the EA Team.
2.   Proposals can be submitted at any time during the year, but would only be evaluated at the next review.
3.   For "high priority" items, requests will be discussed with the appropriate BIO; the BIO will present the case to the EA Team; the Team will decide if it should go forward or not.
4.   Instructions for completing proposals will include:
   - A definition and examples of "enterprise systems".
   - The Evaluation Criteria the EA Team will use.
   - A list of BIOs and the business areas they are responsible for.
   - Language to contact the BIOs for assistance in preparing proposals.
5.   The Evaluation Criteria and Proposal Input forms have been revised (see attachments).
6.   The following is a tentative schedule for the semi-annual calls:

   Call for Proposals   May 1st and December 1st
   Clarification Requested   May15th and December 15th
   Proposals to EA Team for
      Evaluation/Rating   June 1st and January 1st
   Prepare Report   July 1st and February 1st
   Report Completion & Distribution   July 31st and February 28th
   Implementation Planning Begins   August 1st and March 1st

7.   The clarification/completeness reviews will be done by the BIOs for the associated business processes.
8.   For the EA Team evaluation process:
   - A hard copy of all proposals will be provided to the evaluators, along with ITD cost and technical assessments.
   - A spreadsheet will be provided for evaluators to electronically submit their ratings.
   - Rating summaries will be provided to the evaluators before the consensus meeting.
   - BIOs will evaluate all proposals, including those submitted by or through the BIO and those within the BIO's area of responsibility.
   - The Evaluation Consensus Meeting must consist of 80% of the BIOs (8) and 75% of Other Members (3).

EVALUATION CRITERIA

Proposals will be evaluated and assigned a point value using the following criteria. For each criterion, point values from zero to 20 may be assigned.

Criterion 1: Mission Impact Benefit (20 Points)

Mission impact measures to what extent the proposal supports strategic objectives of the Institutional Plan (IP), fundamental site operations, and needs of a stakeholder.

- IP objectives are clearly and beneficially impacted, and/or
- Site operations safety, effectiveness, capability are beneficially impacted, and/or
- Needs/demands of stakeholders are satisfied or better served.

Criterion 2: Organizational Impact Benefit (20 Points)

Organizational impact measures the proposal's benefit to organizational capability, such as breadth of impact on personnel and organizational units.

- Many staff or broad staff capability are beneficially impacted, and/or
- Many organizational units benefit.

Criterion 3: Other Benefit (20 Points)

Other benefit measures all other tangible or intangible merits of the proposal.

- Cost reduction, productivity increase, or service and capability enhancements are significant, and/or
- Processes like decision-making and communication, data accuracy and security, and knowledge awareness and retrieval are greatly improved.

Criterion 4: Overall Benefit to Difficulty (20 Points)

This criterion comparatively measures the overall benefit of the proposal versus the difficulty and uncertainty of its successful implementation. A supplemental technical difficulty assessment will be provided to the Evaluation Team by ITD.

Criterion 5: Overall Benefit to Cost (20 Points)

This criterion comparatively measures the overall benefit of the proposal versus implementation cost, which will be provided to the Evaluation Team by ITD.

Rating Scale:

The rating scale below is to assist evaluators in assigning points for each criterion and to provide a common rating index.

|	
N/A	Criterion does not apply to this proposal
No points	Criterion not addressed or not met. Benefit is minor. Overall benefit does not justify difficulty or cost.
20% of available points	Criterion is marginally met. Benefit is moderate. Overall benefit may not justify difficulty or cost.
50% of available points	Criterion appears to be met. Benefit is significant, but limited in breadth. Overall benefit equals or justifies difficulty or cost.
70% of available points	Criterion is fully met. Benefit is significant and broad or superior, but limited in breadth. Overall benefit outweighs difficulty or cost.
100% of available points	Criterion is fully met and benefit is superior. Overall benefit greatly outweighs difficulty or cost.

FY2001 FY2002 EA PROJECTS STATUS

Project Title	Project Description	Status	
Invoice Tracking System	Track, review process, and approve commercial payment requests.	Implementation of corporate system by Oak Ridge Financial Services Center is complete.	●
CBT System v2 Update	Update the current computer based training system to provide sufficient electronic reporting.	Completed	●
Retirement of Open VMS Platform	Replace unsupported application technology and existing property systems.	Project is ongoing. Service has been purchased to transfer data on VAX to Windows platform.	○
DOE Unsolicited Proposal (USP) System (Phase 2)	Web-enable existing GENIUS system.	Project is ongoing. Business modeling is completed. Application development is in process. Resulting application	○
Automated PR (DOE 4200.33) System	Electronic Purchase Request, to include electronic signature and routing.	73% complete. PADS replacement research is occuring.	○
FITS Update	Accept, track, store and distribute electronically submitted contract deliverables.	Business process modeling complete. Application development 65% complete.	○
Specialty Conference Team Database	Electronic conference registration and e-mail system.	Business process modeling complete. Service has been purchased to do on-line	○
ProMIS Improvements	Modify ProMIS to: 1) expand query capability, and 2) allow multiple product line entry	Being released in phases. Phase 1 release scheduled for 10/2002.	○
SPS Enhancements	Modify SPS to have a reservation made in DISCAS once it is approved by Budget and Finance	Latest version of SPS is in house. Technololgy refreash at 80%.	○
Institutional Budget - Site Support Contracts System	An automated system to support both institutional budget and site support contract financial activities.	Business process modeling in process.	○
Technical Papers Review Process Improvement	Support for the Technical Papers Review Process and tracking of publications and presentations.	Business process modeling in process.	○
Employee Tracking System	A system to address the administrative issues of incoming and outgoing employees as well as employee moves.	Business process modeling in process.	○

FY2001 FY2002 EA PROJECTS STATUS

Project Title	Project Description	Status	
NETL-Wide Action Tracking System	Expand Director's Office Action Tracking System for NETL use.	On hold pending completion of the EDMS pilot.	◯
AutoEDMS Engineering Data Management System	Facility and project drawings management software.	On hold pending completion of the EDMS pilot.	◯
Out Year Planning System	NETL system to track sensitive budget information, e.g., priorities and targets.	Project canceled. Withdrawn at project initiator's request.	◯
Real Time Performance Metrics (Part 1 - Web	Measurement tool to capture Internet statistics of interest to Product Managers and others.	Project not initiated.	◯

●	Completed
◉	In Process
◯	Not Yet Started